

217/785-1705

CONSTRUCTION PERMIT

PERMITTEE

Midwest Generation, LLC  
Attn: Sharene Shealey  
529 East 135<sup>th</sup> Street  
Romeoville, Illinois 60466

Application No.: 15030051

I.D. No.: 197809AAO

Applicant's Designation: Natural Gas

Date Received: March 31, 2015

Subject: Natural Gas Conversion Project

Date Issued: (Draft)

Location: Joliet Generating Station, 1800 Channahon Road, Joliet, Will County

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and air pollution control equipment consisting of a natural gas conversion project as described in the above-referenced application. This Permit is subject to standard conditions attached hereto (as Attachment 2) and the following special conditions.

If you have any questions on this permit, please call Bob Smet at 217/785-9250.

Raymond E. Pilapil  
Acting Manager, Permit Section  
Division of Air Pollution Control

REP:RPS:

cc: USEPA Region V (Lotus Notes)

## PART 1: PROJECT-WIDE CONDITIONS

### 1.1 Introduction

This permit addresses a natural gas conversion project for the Joliet Generation Station. In this project, the five boilers at this station that serve electrical generating units, as listed below, will be converted from burning coal to burning natural gas with installation of new natural gas-fired burners. As part of this project, a new natural gas-fired auxiliary boiler and new natural gas-fired fuel heaters would also be constructed to support the operation of the existing boilers (the main boilers) on natural gas. This project will greatly reduce the emissions of most pollutants from the station, including emissions of sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and particulate (PM/PM<sub>10</sub>/PM<sub>2.5</sub>).

<u>Main Boiler(s)</u>	<u>Electrical Generating Unit</u>
Boiler 5	Unit 6
Boilers 71 and 72	Unit 7
Boilers 81 and 82	Unit 8

### 1.2 Termination of Coal-Firing Capability

- a. Upon initial startup of a main boiler following conversion to natural gas, as provided for by this permit, that boiler shall cease to fire coal.
- b. On such date that a main boiler initially starts up following conversion to natural gas, the existing air pollution control operating permits that address burning of coal in the boilers shall terminate and be replaced by this construction permit:

Unit 6	Permit 73030837
Unit 7	Permit 73030838
Unit 8	Permit 73030839

### 1.3 Non-Applicability of New Source Review (MSSCAM and PSD)

- a. This permit is issued based on this project not being a major project for purposes of Illinois' rules for Major Stationary Sources Construction And Modification (MSSCAM), 35 IAC Part 203. For NO<sub>x</sub>, this is because this project will reduce NO<sub>x</sub> emissions from the main boilers and the NO<sub>x</sub> emissions of the new emission units will not be significant. For volatile organic material (VOM), this is because the source will continue to not be a major source for VOM emissions. (See also Attachment 1.)
- b. This permit is issued based on this project not being a major project for purposes of the federal rules for the Prevention of Significant Deterioration (PSD), 40 CFR 52.21. This is because this project will reduce emissions of regulated PSD pollutants from the main boilers and the emissions of regulated PSD pollutants from the new emission units will not be significant. (See also Attachment 1.)

### 1.4 Applicability of 40 CFR 63 Subpart DDDDD

- a. For purposes of applicability of 40 CFR 63, this permit is issued based on this plant being a major source of hazardous air pollutants (HAPs) on January 31, 2016, the compliance date of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Major Source: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63 Subpart DDDDD. As a consequence, the new auxiliary boiler, the fuel heaters and potentially the main boilers following conversion to natural gas will be subject to the applicable provisions of 40 CFR 63 Subpart DDDDD, which NESHAP addresses major sources of HAPs, notwithstanding the reductions in the HAP emissions of the plant that will result from this project.

#### 1.5 Compliance with Emission Limits

- a. The emission limits set by this permit address all emissions from affected emission units, including emissions during startup, shutdown and malfunction or breakdown.
- b. When emission testing is conducted, hourly emission rates shall be determined from the average of the test results, commonly three runs, each nominally one hour in duration.
- c.
  - i. Except as provided below or unless otherwise specified in a particular provision, compliance with annual limits established by this permit shall be determined from a rolling total of 12 months of data, i.e., from the sum of the data for the current month and data for the preceding 11 months (12 month total), and shall consider all emissions, including emissions during startup, shutdown, and malfunction or breakdown.
  - ii. For the main boilers, for the first year (12 months) of operation following conversion of a main boiler or boilers to natural gas, compliance shall be determined from a cumulative total of monthly data for the main boiler or boilers that have been converted, i.e., from the sum of the data for the current month and data for all preceding months for such boilers beginning on the date or dates that boiler or boilers first resumed operation following conversion on natural gas.
  - iii. For the new auxiliary boiler and fuel heaters, for the first year of operation, compliance shall be determined from a cumulative total of monthly data, i.e., from the sum of the data for the current month and data for all preceding months.

#### 1.6 Retention and Availability of Records

- a. Unless otherwise provided for by a Clean Air Act Permit Program (CAAPP) permit for the source, the Permittee shall retain all records and logs required by this permit for at least five years from the date of entry (unless a longer retention period is specified by a particular provision), keep the records at a location at the plant that is readily accessible to the Illinois EPA or

USEPA, and make records available for inspection and copying by the Illinois EPA or USEPA upon reasonable request.

1.7 Submittals to the Illinois EPA

- a. All reports and notifications required by this permit shall be sent to the Illinois EPA, Bureau of Air Compliance Section in Springfield.
- b. A copy of all required reports and notifications concerning performance testing and emissions monitoring shall also be sent directly to the Source Monitoring Unit in the Illinois EPA, Bureau of Air, Compliance Section.

1.8 Authorization for Operation

The plant may be operated in accordance with this construction permit pursuant to this permit until a Clean Air Act Permit Program (CAAPP) permit is issued for the source that addresses this project, provided that the initial performance testing required by this permit for the main boilers by Condition 2.1.7 is completed in a timely manner and a complete application for a CAAPP permit for this source is submitted that addresses this project within one year of initial operation of a main boiler on natural gas or initial operation of a new unit, whichever occurs first, as provided by Section 39.5(5) (x) of the Act. This condition supersedes Standard Condition 6.

1.9 Standard Permit Conditions

Standard conditions for issuance of construction permits, attached hereto, shall apply to this project, unless superseded by other conditions in the permit. (Refer to Attachment 2.)

## PART 2: UNIT-SPECIFIC CONDITIONS FOR PARTICULAR EMISSION UNITS

### Subpart 2.1: Unit-Specific Conditions for the Main Boilers

#### 2.1.1 Description

The affected boilers for the purpose of these unit-specific conditions are the five existing generating unit boilers or "main boilers" at the plant following conversion to natural gas as described below. These boilers are served by three stacks, with two pairs of boilers having common stacks. When this conversion is completed for a boiler with installation of new natural gas burners, certain emission standards that are applicable to fuel combustion emission units that fire coal will no longer be applicable for the boiler. In addition, certain existing emission control equipment and systems that were used when burning coal, i.e., the electrostatic precipitators for particulate, the selective non-catalytic reduction systems for NO<sub>x</sub> and the sorbent injection system for mercury, will no longer be needed. Continuous emissions monitoring will no longer be required for emissions of sulfur dioxide (SO<sub>2</sub>) or mercury. It is also expected that continuous opacity monitoring will no longer be required.

Boiler/ Generating Unit	Description	Emission Control Equipment
Boiler 5 (BLR5)/ Unit 6	Babcock and Wilcox Boiler Nominal 3,543 mmBtu/hr	Over fired Air, and Gas Reburn
Boilers 71 & 72 (BLR71 & 72)/ Unit 7	Combustion Engineering Boilers Nominal 6,034 mmBtu/hr, combined	Low NO <sub>x</sub> Burners and Over-fired Air
Boilers 81 & 82 (BLR81 & 82)/ Unit 8	Combustion Engineering Boilers Nominal 6,386 mmBtu/hr, combined	Low NO <sub>x</sub> Burners, and Over-fired Air

#### 2.1.2 New Applicable Emission Standards and Requirements

- a. Unless the USEPA revises 40 CFR Part 63 to provide that gas-fired utility boilers are not subject to the NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63 Subpart DDDDD (the Boiler NESHAP), the affected boilers will become subject to the Boiler NESHAP when they cease to be subject to the provisions of the NESHAP for Coal and Oil-Fired Electric Utility Steam Generating Units, 40 CFR 63 Subpart UUUUU (commonly referred to as the Mercury and Air Toxics Standards or MATS). On such date, for each affected boiler, the Permittee must comply with applicable requirements of 40 CFR 63 Subpart DDDDD for the "units designed to burn gas 1 fuel" category, and related requirements of 40 CFR 63 Subpart A, General Provisions, including the following:
  - i. Pursuant to 40 CFR 63.7500 and Table 3 of 40 CFR 63 Subpart DDDDD, the Permittee shall conduct periodic tune-ups of the affected boiler as specified in 40 CFR 63.7540(a)(10), (12) and/or (13).

- ii. Pursuant to 40 CFR 63.7500(a)(3), the Permittee, as the owner or operator of the affected boiler, must operate and maintain the boiler, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.
  - iii. Pursuant to 40 CFR 63.7500 and Table 3 of 40 CFR 63 Subpart DDDDD, by the applicable compliance date for the first main boilers to comply with this NESHAP, the Permittee shall have one-time energy assessment performed for the plant by a qualified energy assessor, which assessment meets the relevant requirements of Table 3 and the definition of "energy assessment" in 40 CFR 63.7575.
- b. Pursuant to 35 IAC 217.141, the NOx emissions of affected Boiler 5 shall not exceed 0.30 lbs/mmBtu of actual heat input, as provided by 35 IAC 217.141(a) for large existing fuel combustion emission units in the Chicago Major Metropolitan Area firing gaseous or liquid fossil fuel.

Note: Boiler 5 was not previously subject to a NOx limit pursuant to 35 IAC 217.141 because 35 IAC 217.141(d) excluded cyclone fired boilers burning solid fuel from this rule.

#### 2.1.3 Changes to Emission Standards and Requirements

- a. The affected boilers are affected units under the Acid Rain Deposition Control Program pursuant to Title IV of the Clean Air Act and are subject to certain control requirements and emissions monitoring requirements pursuant to 40 CFR Parts 72, 73 and 75.

Note: Condition 2.1.4(c) addresses the possibility that opacity monitoring will no longer be required for the affected boilers under the Acid Rain Program.

- b. The affected boilers are not subject to the following standards in 35 IAC Part 212 Subpart E for emissions of particulate matter from existing fuel combustion emission units burning solid fuel:

Boiler 5: 35 IAC 212.201 and 212.203  
Boilers 71, 72, 82 and 83: 35 IAC 212.201

- c. The affected boilers are not subject to the standard in 35 IAC 214.141 for SO<sub>2</sub> emissions from existing fuel combustion emission units burning solid fuel that are located in the Chicago major Metropolitan Area.
- d. Pursuant to 35 IAC 217.141, the NOx emissions of affected Boilers 71 and 72 and Boilers 81 and 82 shall not exceed 0.30 lbs/mmBtu of actual heat input, as provided by 35 IAC 217.141(a) for large existing fuel combustion emission units in the Chicago Major Metropolitan Area firing gaseous or liquid fossil fuel.

Note: This limit takes the place of the limit in 35 IAC 217.141(b), which limits the NOx emissions of such boilers firing solid fuel to 0.90 lbs/mmBtu of actual heat input.

#### 2.1.4 Non-Applicability Provisions

- a. This permit is issued based on the affected boilers not becoming subject to the New Source Performance Standards (NSPS) for Electric Utility Steam Generating Units, 40 CFR 60 Subpart Da, as a result of this project. This is because these boilers will not undergo modifications as addressed by 40 CFR 60.14, i.e., there will not be increases in the hourly rate of emissions of any pollutant for which this NSPS has standards from any of the boilers. This project will also not constitute reconstruction as addressed by 40 CFR 60.15. This is because the capital cost of the changes made to each affected boiler will not exceed 50 percent of the capital cost of a replacement boiler.
- b. Pursuant to 40 CFR 63.10000(f), this permit is issued based on affected EGUs not being subject to the NESHAP for Coal and Oil-Fired Electric Utility Steam Generating Units, 40 CFR 63 Subpart UUUUU, or MATS, beginning six months after coal is last combusted in the EGU unless the Permittee elects to remain subject to the provisions of MATS. This is because, pursuant to 40 CFR 63.9981, MATS only applies to a "coal-fired EGU or oil-fired EGU," as defined by 40 CFR 63.10042. In addition, 40 CFR 63.10000(f) only requires that an EGU that is subject to MATS continue to be subject to its provisions for six months following the last date that the EGU met the definition of an EGU subject to MATS.
- c. This permit is issued based on the Permittee potentially no longer being required to conduct continuous monitoring for opacity for the affected boilers:
  - i. For purposes of 35 IAC Part 201 Subpart L, Continuous Monitoring, this is because natural gas is the only fuel burned in the EGU and the EGUs are excluded from such opacity monitoring pursuant to 35 IAC 201.401(a)(1)(A)(i).
  - ii. For purposes of the Acid Rain Program, this is because, pursuant to 40 CFR 75.14(c), the affected boilers or EGUs will qualify as "gas-fired units," as defined by 40 CFR 72.2, for purposes of 40 CFR Part 75, Continuous Emission Monitoring, if the designated representative for the source submits to USEPA either:
    - A. A minimum of 720 hours of unit operating data following the change in the boiler's fuel usage, showing that no less than 90.0 percent of its heat input is from the combustion of gaseous fuels and the remaining heat input is from the combustion of fuel oil, and a statement that this changed pattern of fuel usage is considered permanent and is projected to continue for the foreseeable future; or

- B. Three calendar years of data following the change in the boiler's fuel usage, showing that no less than 90.0 percent of its average annual heat input during the previous three calendar years, and no less than 85.0 percent of its annual heat input during any one of the previous three calendar years, is from the combustion of gaseous fuels and the remaining heat input is from the combustion of fuel oil.

#### 2.1.5 Operational Requirements

- a. Before beginning operation of each affected boiler on natural gas pursuant to this permit, the Permittee shall clean the interior of the boilers to remove accumulated ash.

#### 2.1.6 Operational and Emission Limits

- a.
  - i. The combined heat input to the affected boilers shall not exceed 12.0 million mmBtu/month and 69.9 million mmBtu/year.
  - ii. The heat input to Boiler 5 shall not exceed 2.6 million mmBtu/month and 15.52 million mmBtu/year.
- b.
  - i. The NOx emissions of the affected boilers shall not exceed the following limits. Compliance with the limits below in lbs/mmBtu shall be determined on a 30-boiler operating day rolling average basis, in accordance with the provisions of 40 CFR 60.48Da(d), including data obtained during periods of startup, shutdown or malfunction.

Boiler(s)	Limits		
	Lbs/mmBtu	Lbs/Hour*	Tons/Year
Boiler 5	0.135	2103	1047.6
Boiler 71/72	0.110	4136	-
Boiler 81/82	0.110	1251	-
Total	-	-	4040

\* Limits on hourly NOx emissions are set to address non-applicability of the NSPS, 40 CFR 60 Subpart Da.

- ii. The VOM emissions of the affected boilers shall not exceed the following limits:
    - A. 0.0027 lb/mmBtu, and
    - B. 94.9 tons/year.
- c. Notwithstanding Conditions 2.1.6(a) (i) and (b) (ii) (A), until results of emission testing conducted pursuant to Condition 2.1.7 have been submitted to the Illinois EPA showing that the VOM emissions of the affected boilers do not exceed 0.0027 lb/mmBtu, the combined heat input to the affected boilers shall not exceed 34.5 million Btu/year (rather than 69.9 million Btu/year) and the VOM emissions of the affected boilers shall not exceed 0.0055 lb/mmBtu (rather than 0.0027 lb/mmBtu).



Note: The limits in Condition 2.1.6 address the operation and emissions of Boilers 5, 71/72 and 81/82 following their conversion to natural gas.

2.1.7 Emission Testing

- a. The Permittee shall have emissions testing conducted for the affected boiler(s) for CO and VOM as follows:
- b. The timing of this testing shall be as follows:
  - i. Within one year (365 days) after initially operating Boiler 5, Boilers 71/72 and Boilers 81/82, following conversion to natural gas, the Permittee shall have initial emission tests conducted for such boiler(s) while the boiler(s) are operating at maximum rates and other representative operating conditions.
  - ii. Until a CAAPP permit is issued that addresses the affected boilers, this testing shall be repeated within at least three years of the previous testing.
  - iii. The Permittee shall perform emission tests as provided below for boiler(s) as requested by the Illinois EPA within 90 days of a written request by the Illinois EPA or such later date agreed to by the Illinois EPA.
- c.
  - i. The following methods and procedures shall be used for this testing, unless other methods adopted by or being developed by USEPA or other alternative test methods are approved by the Illinois EPA.

Carbon Monoxide	Method 10
Volatile Organic Material	Method 18 or 25A
  - ii. In conjunction with the initial emission tests, the Permittee shall also conduct measurements for opacity. These measurements shall be conducted using the continuous opacity monitors (COMS) on the boiler(s) or by Method 9, if the COMS are no longer in service.
- d. Test plans, test notifications, and test reports shall be submitted to the Illinois EPA in accordance with Condition 3.1. In addition to other required information, if test runs that are longer than one-hour in duration are planned, the expected duration of the runs and the reason for extended runs shall be explained in the test plans and in the test reports.
- e. In addition to other information required in a test report, test reports shall include detailed information on the operating conditions of the affected boiler(s) during testing, including:
  - A. Firing rate (mmBtu/hour).

- B. Significant operating parameters of the affected boiler(s).
- C. Opacity of the exhaust from the affected boiler(s), 6-minute averages.
- D. Turbine Generator output (MW<sub>e</sub> gross).

#### 2.1.8-1 Continuous Emissions Monitoring for NO<sub>x</sub>

- a. For the affected boilers or EGUs, the Permittee shall continue to calibrate, maintain, and operate continuous emissions monitoring systems (CEMS) for the NO<sub>x</sub> emissions in accordance with the applicable monitoring requirements of the federal Acid Rain Program, 40 CFR Part 75, and the Cross State Air Pollution Rule, 40 CFR 96 Subpart HHH unless it obtains approval from USEPA to transition to the alternative monitoring protocol for a natural gas-fired peaking unit for such boilers or EGUs.
- b. For the affected boilers or EGUs, this monitoring for NO<sub>x</sub> emissions conducted above shall also be used to determine compliance with the limits for NO<sub>x</sub> emissions in Condition 2.1.6(b)(i), except that the provisions for substitution of missing data need not be used.

#### 2.1.8-2 Changes in Monitoring for Emissions of SO<sub>2</sub> and Mercury and for Opacity

- a. The Permittee shall notify the Illinois EPA at least 30 days in advance of discontinuing use of SO<sub>2</sub> CEMS on the affected boilers or EGUs and beginning monitoring of SO<sub>2</sub> emissions on such units using the Optional SO<sub>2</sub> Emissions Data Protocol for Gas-Fired and Oil-Fired Units, Appendix D to 40 CFR Part 75, as provided for by 40 CFR 75.11(d)(2). With this notification, the Permittee shall provide: 1) A copy of the notification submitted to the USEPA for this change in monitoring methodology for SO<sub>2</sub> emissions; and 2) If the EGU is still subject to MATS, a showing that the EGU now qualifies as a low emitting EGU for SO<sub>2</sub> emissions under the MATS, as addressed by 40 CFR 63.10005(h)(1), or that an SO<sub>2</sub> CEMS is no longer otherwise required by MATS.
- b. The Permittee shall notify the Illinois EPA at least 30 days in advance of discontinuing use of mercury CEMS on the affected boilers or EGUs. With this notification, if the EGU is still subject to MATS, the Permittee shall provide a demonstration that the EGU now qualifies as a low emitting EGU for mercury emissions under the MATS, as addressed by 40 CFR 63.10005(h)(2), or that a mercury CEMS is no longer otherwise required by MATS. Unless 35 IAC Part 225 Subpart B has been amended to provide that its requirements related to mercury emissions no longer apply when an EGU permanently ceases combustion of coal, this notification shall also include a demonstration that such EGU is eligible to use the low mass emission excepted monitoring methodology, as provided for by 35 IAC 225.240(a)(4), and will continue to comply with a mercury emission standard in 35 IAC 225.294(c)(i) (0.0080 lbs mercury/GWh gross electrical output) for the remainder of the calendar year.

- c. The Permittee shall notify the Illinois EPA at least 30 days in advance of discontinuing use of COMS on affected boilers or EGUs. With this notification, the Permittee shall provide: 1) A copy of the notification submitted to the USEPA pursuant to 40 CFR 75.14(c)(c) showing that the EGU now qualifies as a "gas-fired unit" for purposes of monitoring under 40 CFR Part 75; 2) Confirmation that continued use of COMS is not required by 35 IAC 201.401(a)(1), 3) The average and maximum values of opacity, 6-minute average, monitored for the EGU during the previous 720 hours of operation, not including any time after conversion to natural gas when the ESPs on the EGU were still being operated, and 4) If the ESPs are operated for any time after conversion to natural gas, the average and maximum value of opacity for such periods when the ESPs were operated.

#### 2.1.9 Recordkeeping

- a. For the affected boilers, unless the USEPA revises 40 CFR Part 63 to provide that gas-fired utility boilers are not subject to the Boiler NESHAP, the Permittee shall maintain the records required by this NESHAP, including the records required by 40 CFR 63.7540(a)(10)(vi) and 63.7555(a)(1), (i) and (j).
- b. The Permittee shall maintain the records of the following information for Boiler 5, Boilers 71/72 and Boilers 81/82, on a monthly and annual basis:
  - i. Fuel consumption, in million scf.
  - ii. Heat input, in mmBtu.
  - iii. Total operating hours of the generating unit.
  - iv. Total number of boiler startups.
- c. The Permittee shall maintain the following records for the operation and maintenance of each affected boiler:
  - i. An operating log for the boiler that, at a minimum, shall address:
    - A. Each startup of the boiler, including the date and time, and description.
    - B. Each shutdown of the boiler, including the date and time, and description.
    - C. Any upset of the boiler that significantly impaired emission performance, including a description of the event, corrective actions taken, and preventative actions taken to address similar events.
  - ii. Inspection, maintenance and repair log(s) for the boiler and associated control system that, at a minimum, shall identify

dates and nature of activities performed related to components that may affect emissions; the reason for such activities, i.e., whether planned or initiated due to a specific event or condition; and any failure to carry out the established maintenance procedures, with explanation.

- d. The Permittee shall record the information specified by Condition 3.3 for any period during which the affected boiler deviated from an applicable emission limit or other requirement.
- e. For the affected boilers, the Permittee shall maintain the following records related to NOx emissions:
  - i. The following records for Boiler 5, Boilers 71/72 and Boilers 81/82, with supporting data and calculations:
    - A. NOx emissions, recorded hourly in units of lbs/hour and lbs/mmBtu, which shall be determined from monitoring in accordance with Condition 2.1.8-1.
    - B. NOx emissions, in lbs/mmBtu, on a 30 boiler-operating-day rolling average basis.
    - C. NOx emissions (tons/month and tons/year).
  - ii. Records for the combined NOx emissions of the affected boilers (tons/month and tons/year).
- f. For the affected boilers, the Permittee shall maintain the following records related to VOM emissions:
  - i. A file containing a determination of the maximum hourly VOM emission rates of Boiler 5, Boilers 71/72 and Boilers 81/82, (lbs/mmBtu and lbs/hour), with supporting documentation And calculations.
  - ii. Records of combined actual VOM emissions of the boilers (tons/month and tons/year), with supporting calculations.

#### 2.1.10 Notification and Reporting

- a. For the affected boilers, the Permittee shall notify the Illinois EPA within 30 days of the following events:
  - i. The date that each affected boiler or EGU last fires coal. With this notification, the Permittee shall notify the Illinois EPA if it intends to voluntarily continue to comply with MATS for longer than six months from this date.
  - ii. The date that each affected boiler or EGU initially fires natural gas following conversion pursuant to this permit.

- b. The Permittee shall notify the Illinois EPA of deviations of affected boiler(s) from applicable requirements of this permit as follows. These notifications shall include the information specified by Condition 3.4.
- i. Unless the USEPA revises 40 CFR Part 63 to provide that gas-fired utility boilers are not subject to the Boiler NESHAP, deviations from requirements of the Boiler NESHAP shall be reported in the reports required by the Boiler NESHAP or otherwise in accordance with Condition 2.1.10(b) (iv).
  - ii. Deviations from the limits for NOx emissions in lbs/mmBtu in Condition 2.1.6(b) (i) shall be reported in the semi-annual monitoring reports for the NOx CEMS.
  - iii. Deviations from the NOx limits in lbs/hour in Condition 2.1.6(b) (i) shall be reported within 30 days.
  - iv. Other deviations from applicable requirements shall be reported in a quarterly report.

## Subpart 2.2: UNIT-SPECIFIC CONDITIONS FOR THE AUXILIARY BOILERS

### 2.2.1 Description

The affected boiler for the purpose of these unit-specific conditions is the new natural gas-fired auxiliary boiler, as described below that will be installed to support the operation of the plant on natural gas. The auxiliary boiler will supply steam for heating and to assist in the startup of the electrical generating units. The steam from this boiler will not be sent to the existing steam turbine generators to produce electricity that goes to the grid.

Emission Unit	Nominal Heat Input Capacity	Control Measures
Auxiliary Boiler	286 mmBtu/hr	Low-NOx Combustion Technology

### 2.2.2 Applicable Federal Emission Standards

- a. The affected boiler is an affected facility under the federal NSPS for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60 Subpart Db. For the affected boiler, the Permittee shall comply with applicable requirements of this NSPS and applicable requirements of 40 CFR 60 Subpart A, General Provisions, including the following:
  - i. The NOx emissions of the affected boiler shall not exceed 43 ng/J (0.10 lb/million Btu) on a 30-day rolling average, pursuant to 40 CFR 60.44b(a), on and after the date on which the initial performance test is completed or is required to be completed under 40 CFR 60.8, whichever date comes first.
  - ii. The Permittee shall at all times, maintain and operate the affected boiler in a manner consistent with good air pollution control practices for minimizing emissions, pursuant to 40 CFR 60.11(d).
- b. The affected boiler is subject to 40 CFR 63 Subpart DDDDD (the Boiler NESHAP). For the affected boiler, the Permittee must comply with applicable requirements of this NESHAP for the "units designed to burn gas 1 fuel" category, and related requirements of 40 CFR 63 Subpart A, General Provisions, including the following:
  - i. Pursuant to 40 CFR 63.7500 and Table 3 of 40 CFR 63 Subpart DDDDD, the Permittee shall conduct periodic tune-ups of the affected boiler as specified in 40 CFR 63.7540(a)(10), (12) and/or (13).
  - ii. Pursuant to 40 CFR 63.7500(a)(3), the Permittee, as the owner or operator of the affected boiler, must operate and maintain the boiler, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

### 2.2.3 Applicable State Emission Standards

- a. Pursuant to 35 IAC 212.122(a), the opacity of the exhaust from the affected boiler shall not exceed 20 percent, except as provided by 35 IAC 212.122(b).
- b. Pursuant to 35 IAC 216.121, the CO emissions from the affected boiler shall not exceed 200 ppm, corrected to 50 percent excess air.
- c. Pursuant to 35 IAC 217.164, the NO<sub>x</sub> emissions of the affected boiler on an ozone season basis (May 1 through September 30) and an annual basis shall not exceed 0.08 lbs/mmBtu, as applicable for a boiler that fires natural gas.
- d. Pursuant to 35 IAC 217.150(e), the Permittee shall operate the affected boiler in a manner consistent with good air pollution control practices to minimize NO<sub>x</sub> emissions.

### 2.2.4 Non-Applicability Provisions

- a. This permit is issued based on certain provisions of the NSPS, 40 CFR 60 Subpart Db, as follows, not being applicable to the affected boiler:
  - i. The standard for PM and opacity, because this boiler only burns natural gas [40 CFR 60.43b(f) and (h)(1)].
  - ii. The SO<sub>2</sub> standards, because this boiler only fires fuel with a potential SO<sub>2</sub> emission rate of 0.32 lb/mmBtu heat input or less. [40 CFR 60.42b(k)(2), 60.47b(f) and 60.49b(r)]
  - iii. The opacity monitoring requirements of this NSPS, 40 CFR 60.48b, because this boiler only burns gaseous fuels, without post-combustion technology to reduce SO<sub>2</sub> or PM emissions. [40 CFR 60.48b(j)(2)]
- b. The affected boiler is not subject to the federal Acid Rain Program pursuant to Title IV of the federal Clean Air Act since it does not qualify as a utility unit or an electrical generating unit for the purpose of this program.

### 2.2.5 Operational Requirements, Work Practices and Production Limits

- a. Natural gas shall be the only fuel fired in the affected boiler.
- b. The nominal rated heat input capacity of the affected boiler shall not exceed 268 mmBtu/hour.
- c. The usage of fuel in the affected boiler shall not exceed 260,000 mmBtu/month and 1,380,000 mmBtu/year.
- d. The steam from the affected boiler shall not be used to produce electricity for commercial sale to the grid.

- e. The Permittee shall maintain and operate the affected boiler in a manner consistent with good air pollution control practices to minimize emissions.

#### 2.2.6 Emission Limits

- a. The NOx emissions from the affected boiler shall not exceed 0.036 lb/mmBtu, 30-day average, determined in accordance with the methodology of the NSPS.
- b. i. The emissions of the affected boiler shall not exceed the following limits.

Pollutant	Short-Term Emissions (lbs/mmBtu)	Annual Emissions (tons/year)
NOx	*	24.8
CO	0.037	25.2
VOM	0.0042	2.9
PM	0.0019	1.31
PM <sub>10</sub> /PM <sub>2.5</sub>	0.0076	5.24

\* See Condition 2.2.6(a)

- ii. This permit is issued based on minimal emissions of SO<sub>2</sub> from the affected boiler, i.e., emissions of no more than 0.4 tons/year.

#### 2.2.7 Emission Testing Requirements

- a. i. For the affected boiler, for NOx emissions, the Permittee shall fulfill applicable performance testing requirements of the NSPS, including 40 CFR 60.8(a), (c) and (d) and 60.46b(e).
- ii. For each performance evaluation conducted to demonstrate compliance with the NSPS, in addition to submitting a test report to the Illinois EPA, the Permittee shall electronically submit the test data to USEPA if required by the NSPS.
- b. The Permittee shall have emissions testing conducted for the affected boiler as follows, at its expense by a qualified testing service under representative operating conditions, for emissions of VOM and CO.
  - i. The timing of testing shall be as follows:
    - A. Testing shall initially be conducted for the affected boiler within 365 days after initial startup of the boiler.
    - B. In addition, the Permittee shall have testing performed as requested by the Illinois EPA for an affected boiler within 45 days of a written request by the Illinois EPA or such later date agreed to by the Illinois EPA.



- ii. Appropriate USEPA test methods, including the following methods, shall be used for testing, unless other methods adopted by or being developed by USEPA or other alternative test methods are approved by the Illinois EPA.

Carbon Monoxide	Method 10
Volatile Organic Material	Method 18 or 25A

- c.
  - i. Test plans, test notifications, and test reports shall be submitted to the Illinois EPA in accordance with the Condition 3.1.
  - ii. In addition to other information required in a test report, test reports shall include detailed information on the operating conditions of the affected boiler during testing, including:
    - A. Fuel consumption (scf);
    - B. Firing rate (mmBtu/hour) and other significant operating parameters of the affected boiler;
    - C. Opacity of the exhaust, 6-minute averages, as determined by USEPA Method 9, if visible emissions are normally present, as determined by Method 22.

#### 2.2.8-1 Monitoring Requirements for NO<sub>x</sub> Emissions

- a. Pursuant to 40 CFR 60.48b, for the affected boiler, the Permittee shall install, calibrate, operate and maintain a CEMS for NO<sub>x</sub> emissions discharged from the affected boiler and the concentration of CO<sub>2</sub> or O<sub>2</sub> in the exhaust.
  - i. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of these CEMS. This CEMS shall be operated during all periods of operation of the affected boiler except for CEMS breakdowns and repairs. This CEMS shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive units operating days as specified and pursuant to 40 CFR 60.48b(f). Data is to be obtained in the scheduling and course of performing calibration checks, and zero and span adjustments as specified in the NSPS.\*
    - \* Fulfillment of the above criteria for availability of emission data from the CEMS does not shield the Permittee from potential enforcement for failure to properly maintain and operate the CEMS.
  - ii. The 1-hour average NO<sub>x</sub> emission rates measured by the CEMS shall be expressed in lbs/mmBtu heat input and shall be used to calculate average emission rates pursuant to the NSPS. The 1-hour averages shall be calculated using the data points

required under 40 CFR 60.13(h) (2), except as allowed under 60.48b(b) (2).

- iii. This CEMS shall also be used to determine compliance with the NOx limits in Conditions 2.2.3(c) and 2.2.6.
- b. The Permittee shall fulfill applicable requirements of the NSPS for this continuous monitoring system, including the following, unless alternative requirements are approved by USEPA pursuant to 40 CFR 60.13(i). For this purpose, pursuant to 40 CFR 60.13(b), the continuous monitoring system shall be installed and operational prior to conducting the initial performance test for NOx under 40 CFR 60.8. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the monitoring devices.
  - i. Applicable notification requirements, including 40 CFR 60.7(a) (5), 60.8(d) and 60.49b(b).
  - ii. Applicable operational requirements, including 40 CFR 60.13(e) and 60.48b(c), which provide that a continuous monitoring system shall be operated during all periods of operation of an affected facility except for continuous monitoring system breakdowns and repairs. Data is to be recorded during calibration checks, and zero and span adjustment.
  - iii. Applicable recordkeeping requirements, including 40 CFR 60.49b(g).
  - iv. Applicable reporting requirements, including 40 CFR 60.7(c), (d) and/or (e) and 60.49b(h).
- c. The Permittee shall also fulfill applicable requirements of 35 IAC Part 217 Subpart D for this monitoring system, including the following:
  - i. Applicable notification requirements of 35 IAC 217.155.
  - ii. Applicable recordkeeping requirements of 35 IAC 217.156(b) (9) and (b) (10).
  - iii. Applicable operational requirements of 35 IAC 217.157(a) (1).
  - iv. Applicable reporting requirements of 35 IAC 217.156(j).

#### 2.2.8-2 Instrumentation Requirements

- a. The Permittee shall install, calibrate, operate and maintain instrumentation for the affected boiler for fuel usage, scf.

#### 2.2.8-3 Opacity Observations

- a. The Permittee shall perform opacity observations for the affected boiler in accordance with Method 9 on at least an annual basis if visible emissions are normally present when the boiler is operating, as determined by Method 22.

#### 2.2.9 Recordkeeping Requirements

- a. For the affected boiler, the Permittee shall maintain the records required by the NESHAP, 40 CFR 63 Subpart DDDDD, including the records required by 40 CFR 63.7540(a)(10)(vi) and 63.7555(a)(1), (i) and (j).
- b. The Permittee shall maintain a file or other record containing the following information for the affected boiler:
  - i. If the maximum design heat input capacity is not stated on the nameplate attached to the affected boiler, the maximum design heat input capacity of the affected boiler, mmBtu/hour, with supporting documentation.
  - ii. The Permittee's established operating and maintenance procedures for the affected boiler.
- c. An operating log or other records for the affected boiler that, at a minimum, shall include the information specified in Condition 3.2 and the following information:
  - i. Information for each startup and shutdown, including date, time and duration, as required by 40 CFR 60.7(b).
  - ii. Information for any incident in which the operation of the affected boiler continued during malfunction or breakdown, including: date, time, and duration; a description of the incident; whether emissions exceeded or may have exceeded any applicable standard; a description of the corrective actions taken to reduce emissions and the duration of the incident; and a description of the preventative actions taken, as addressed by 40 CFR 60.7(b).
- d. The Permittee shall maintain the following operating records for the affected boiler:
  - i. Daily records of fuel use, which records shall be prepared and maintained following the procedures of 40 CFR 60.49b(d);
  - ii. Amount of fuel consumed, (million scf/month and million scf/year) and the annual capacity factor, determined on a 12-month rolling basis with a new annual capacity factor calculated for each month pursuant to 40 CFR 60.49b(d).
  - iii. For the affected boiler, pursuant to 40 CFR 60.49b(r), the fuel receipts from the fuel supplier that certify that the gaseous fuel meets the definition of natural gas as that term is defined in 40 CFR 60.41b, and the applicable sulfur limit.

- iv. Pursuant to 35 IAC Part 217 Subparts D and E, the following operating records for the affected boiler:
  - A. Usage of natural gas, in million scf per month and million scf per year.
  - B. The actual heat input in mmBtu per ozone season and mmBtu per year with supporting documentation for the heat content of the fuel.
  - C. The applicable NOx emission limitation in lbs/mmBtu for each ozone season and each calendar year, calculated in accordance with 35 IAC 217.165.
- e. The Permittee shall keep inspection, maintenance and repair logs or other similar records for the affected boiler that contains the information specified in Condition 3.2(b).
- f. The Permittee shall maintain records of the following information for the NOx emissions of the affected boiler for each operating day, pursuant to 40 CFR 60.49b(g) unless alternative recordkeeping requirements are approved for the boiler in conjunction with USEPA approval of alternative monitoring procedures under the NSPS:
  - i. Calendar date.
  - ii. The measured average hourly emission rates (expressed in lb/mmBtu heat input).
  - iii. The 30-day average emission rate (lb/mmBtu heat input and lb/hour) calculated at the end of each operating day from the measured hourly emission rates for the preceding 30 unit operating days.
  - iv. Identification of the operating days when the calculated 30-day average emission rates are in excess of an applicable standard or limit, with the reasons for such excess emissions as well as a description of corrective actions taken.
  - v. Identification of the operating days for which emission data have not been obtained, including a description of corrective actions taken.
  - vi. Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.
  - vii. If continuous emissions monitoring is conducted, the information specified by 40 CFR 60.49b(g) (5), (6), (7), (8) and (9).

- g. Pursuant to 35 IAC Part 217 Subpart D and E, the Permittee shall maintain the following records related to the NOx emissions of the affected boiler:
  - i. The average hourly NOx emission data as determined by the CEMS.
  - ii. The ozone season and annual NOx emissions (pounds).
  - iii. The ozone season average and annual average NOx emission rates (lbs/mmBtu heat input), calculated within 30 days of the end of the averaging periods (i.e., calculated by October 30 for ozone season averaging period and by January 30 of the following year for annual averaging period).
- h. The Permittee shall keep the following records related to the emissions of NOx, CO, VOM, PM and PM<sub>10</sub>/PM<sub>2.5</sub> from the affected boiler:
  - i. For NOx, the emissions of NOx from the affected boiler based on continuous emissions monitoring data (tons/month and tons/year).
  - ii. For pollutants other than NOx:
    - A. A file containing the emission factors that are used to calculate emissions, with supporting documentation; and
    - B. The emissions of the affected boiler based on operating data and applicable emission factors, in tons/month and tons/year, with supporting calculations.

#### 2.2.10 Notification and Reporting Requirements

- a. For the affected boiler, the Permittee shall fulfill applicable notification and reporting requirements of the NSPS, 40 CFR 60.7 and 60.49b, by sending required notifications and reports to the Illinois EPA, including the following reports:
  - i. Written notification of commencement of construction, no later than 30 days after such date. [40 CFR 60.7(a)(1)]
  - ii. Written notification of the actual date of initial startup, within 15 days after such date. [40 CFR 60.7(a)(3)]
  - iii. Reports containing the information recorded under 40 CFR 60.49b(a), (b), (g) and (j).
  - iv. Periodic reports for excess emissions, as further addressed by Condition 2.2.10(d)(i).
  - v. With the periodic compliance reports, reports certifying that only natural gas that is known to contain insignificant amounts of sulfur were combusted in the affected boilers during the reporting period, pursuant to 40 CFR 60.49b(r).

- b. For the affected boiler, the Permittee shall fulfill the applicable notification and reporting requirements of the NESHAP, 40 CFR 63 Subpart DDDDD, including the notifications and reports required by 40 CFR 63.7545(a) and 63.7550(c)(1).
- c. For the affected boiler, the Permittee shall fulfill the applicable notification and reporting requirements of 35 IAC Part 217 Subpart D, including 35 IAC 217.155(b) and 217.156((g) and (j)).
- d. For the affected boiler, the Permittee shall submit periodic compliance reports to the Illinois EPA for the affected boilers, which reports shall include the following information related to excess NOx emissions and deviations from other permit requirements. These reports shall be submitted on a semi-annual basis, with each report submitted no later than 30 days following the end of the reporting period.
  - i. As related to the NSPS standard for NOx (Condition 2.2.2(a)(i)), the state emission standard for NOx (Conditions 2.2.3(c)) and the limits for NOx emissions set by this permit (Conditions 2.2.6(a) and (b)), the information required for reporting of exceedances under 40 CFR 60.7(c) or (d) and 60.49b(h) and (j) and the information specified by Condition 3.4. If there are no such exceedances during the reporting period, the report shall state that no exceedances occurred during the reporting period.
  - ii. Information for other deviations during the reporting period, if any, which shall include the information specified by Condition 3.4.
  - iii. When no excess emissions or deviations have occurred or the CEMS have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

## Subpart 2.3: UNIT-SPECIFIC CONDITIONS FOR THE HEATERS

### 2.3.1 Description

The affected units for the purpose of these unit-specific conditions are natural gas-fired pipeline heaters. These heaters are used to indirectly heat natural gas to counteract the cooling that occurs when the pressure of natural gas is lowered when transitioning between pipelines. The conversion project may need up to six fuel heaters with nominal rated heat input capacities of up to 11.0 mmBtu/hr each to heat the natural gas supply to the main boilers.

### 2.3.2 Applicable Federal Emission Standards

- a. The affected units are subject to the Boiler NESHAP, 40 CFR 63 Subpart DDDDD. For each affected unit, the Permittee must comply with applicable requirements of the NESHAP, 40 CFR 63 Subpart DDDDD, for the "units designed to burn gas 1 fuel" category, and related requirements of 40 CFR 63 Subpart A, General Provisions, including the following:
  - i. Pursuant to 40 CFR 63.7500 and Table 3 of 40 CFR 63 Subpart DDDDD, the Permittee shall conduct periodic tune-ups of each affected unit as specified in 40 CFR 63.7540(a)(10), (11), (12) or (13), as applicable. (See also Condition 2.24(d).)
  - ii. Pursuant to 40 CFR 63.7500(a)(3), the Permittee, as the owner or operator of the affected units, must operate and maintain each unit, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.
- b.
  - i. Each affected unit with a heat input capacity of 10 mmBtu/hr or greater is an affected facility under the federal New Source Performance Standard (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc. As an affected facility, the Permittee must comply with applicable requirements of the NSPS, 40 CFR 60 Subpart Dc, and related requirements of 40 CFR 60 Subpart A, General Provisions, for the heater.
  - ii. Pursuant to the NSPS, 40 CFR 60.11(d), at all times the Permittee shall, to the extent practicable, maintain and operate each affected unit with a heat input capacity of 10 mmBtu/hr or greater in a manner consistent with good air pollution control practices for minimizing emissions.

### 2.3.3 Applicable State Emission Standards

- a. Pursuant to 35 IAC 212.123(a), the opacity of the exhaust from each affected unit shall not exceed 30 percent, except as provided by 35 IAC 212.123(b).

- b. Pursuant to 35 IAC 216.121, for each affected unit with actual heat input greater than 10 mmBtu/hour, the CO emissions from the affected unit shall not exceed 200 ppm, corrected to 50 percent excess air.

#### 2.3.3 Non-applicability Provisions

- a. This permit is based on the affected units not being subject to the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63 Subpart JJJJJJ, because the source is a major source of HAP.

#### 2.3.4 Operational Limits and Work Practice Requirements

- a. Natural gas shall be the only fuel fired in the affected units.
- b. The rated heat input capacity of each affected unit shall not exceed 11.0 million Btu/hour.
- c. The combined usage of fuel in the affected units shall not exceed 31,000 mmBtu/month and 184,000 mmBtu/year.
- d. Pursuant to 40 CFR 63.7500 and Table 3 of the Boiler NESHAP, the Permittee shall conduct periodic tune-ups of the affected units as specified in 40 CFR 63.7540 as follows. These tune-ups shall also serve as work practices for the emissions of CO and VOM of the affected units.
  - i. For each affected unit without a continuous oxygen trim system and with a heat input capacity of 10 mmBtu per hour or greater: Annually.
  - ii. For each affected unit without a continuous oxygen trim system and with a heat input capacity of less than 10 mmBtu per hour but greater than 5 mmBtu per hour: Biennially.
  - iii. For each affected unit with a continuous oxygen trim system that maintains an optimum air to fuel ratio or with a heat input capacity of less than or equal to 5 mmBtu per hour: At least every five years.

#### 2.3.5 Emissions

- a. Total emissions from the affected units, combined, shall not exceed the following limits. Compliance with these limits shall be determined from a running total of monthly data.

Pollutant	Limits	
	lb/mmBtu, HHV	Tons/Year
NOx	0.101	9.3
CO	0.050	4.4
VOM	0.002	0.2



- b. This permit is issued based on minimal emissions of PM, PM<sub>10</sub>/PM<sub>2.5</sub> and SO<sub>2</sub> from the affected units, i.e., total emissions of each pollutant that are no more than 0.7 tons/year.

#### 2.3.6 Recordkeeping Requirements

- a. For the affected units, the Permittee shall maintain the records required by the NESHAP, 40 CFR 63 Subpart DDDDD, including the records required by 40 CFR 63.7540(a)(10)(vi) and 63.7555(a)(1), (i) and (j).
- b. For the affected units, the Permittee shall maintain a file containing the following information for each affected unit: model name, serial number, maximum design heat input capacity (mmBtu/hour), the date installed, the date the unit last operated and the date removed from service.
- c. The Permittee shall maintain the following records for the amount of fuel combusted in the affected units (scf/month and scf/year).
- d. For the affected units, the Permittee shall maintain an operating log or other records for the affected units that, at a minimum, shall include the following information:
  - i. An inspection, maintenance, and repair log or other records with dates and the nature of such activities for the affected units.
  - ii. A. For the affected units with a heat input capacity of 10 mmBtu/hr or greater, information for each startup and shutdown, including date, time and duration, as required by 40 CFR 60.7(b).  
  
B. Information for any incident in which the operation of the affected unit continued during malfunction or breakdown, as required by 40 CFR 60.7(b). These records shall include date, time, and duration; a description of the incident; whether emissions exceeded or may have exceeded any applicable standard; a description of the corrective actions taken to reduce emissions and the duration of the incident; and a description of the preventative actions taken.
- e. The Permittee shall keep the following records related to emissions of NO<sub>x</sub>, CO and VOM of the affected units, with supporting calculations:
  - i. A file containing a determination of the maximum emission rates of each pollutant in lbs/mmBtu, with supporting documentation.
  - ii. Records of actual emissions of each pollutant (tons/month and tons/year), with supporting calculations.

- iii. Records of the actual emissions of each pollutant from all affected units, combined (tons/month and tons/year), with supporting calculations.

#### 2.3.7 Notification and Reporting Requirements

- a. For the affected units, the Permittee shall fulfill the applicable notification and reporting requirements of the NESHAP, 40 CFR 63 Subpart DDDDD, including the notifications and reports required by 40 CFR 63.7545(a) and 63.7550(c)(1).
- b. The Permittee shall furnish the Illinois EPA with written notification as follows with respect to commencement of construction and operation of the affected units:
  - i. The date construction of the affected unit commenced, postmarked no later than 30 days after such date, pursuant to 40 CFR 60.7(a)(1) and 40 CFR 60.48c(a).
  - ii. The actual date of initial startup of the affected units, postmarked within 15 days after such date, pursuant to 40 CFR 60.7(a)(3) and 60.48c(a), which shall be accompanied by the following information:
    - A. The design heat input capacity of the units and identification of the fuels to be combusted in the affected units, pursuant to 40 CFR 60.48c(a)(1).
    - B. The annual capacity factor at which the Permittee anticipates operating the units based on fuel fired, pursuant to 40 CFR 60.48c(a)(3).
- c. For the affected units, the Permittee shall notify the Illinois EPA of deviations from the permit requirements within 30 days of an occurrence. Reports shall include the information specified in Condition 3.4.

### PART 3: GENERAL CONDITIONS

#### 3.1 General Requirements for Emission Testing

- a. At least 60 days prior to the actual date of initial emission testing required by this permit, a written test plan shall be submitted to the Illinois EPA for review. This plan shall describe the specific procedures for testing and shall include at a minimum:
  - i. The person(s) who will be performing sampling and analysis and their experience with similar tests.
  - ii. The specific conditions, e.g., operating rate and control device operating conditions, under which testing shall be performed including a discussion of why these conditions will be representative and the means by which the operating parameters will be determined.
  - iii. The specific determinations of emissions that are intended to be made, including sampling and monitoring locations.
  - iv. The test method(s) that will be used, with the specific analysis method if the method can be used with different analysis methods.
- b.
  - i. The Permittee shall notify the Illinois EPA prior to performing emissions testing required by this permit to enable the Illinois EPA to observe the tests. Notification for the expected date of testing shall be submitted a minimum of 30 days prior to the expected date, and identify the testing that will be performed. Notification of the actual date and expected time of testing shall be submitted a minimum of 5 working days prior to the actual date of testing. Notwithstanding applicable rules, the Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.
  - ii. This notification shall also identify the parties that will be performing testing and the set or sets of operating conditions under which testing will be performed.
- c. Three copies of the Final Reports for emission tests shall be forwarded to the Illinois EPA within 30 days after the test results are compiled and finalized but not later than 90 days after the date of testing. At a minimum, the Final Report for testing shall contain the following. Copies of emission test reports shall be retained for at least five years after the date that an emission test is superseded by a more recent test.
  - i. A tabular summary of results which includes:
    - Process rates (e.g., fuel usage rate or firing rate)
    - Measured emission rates for different pollutants tested

- Emission factor, calculated using the average test results in the terms of the applicable limits, for example, in units of lbs pollutant emitted per mmBtu
- Compliance demonstrated - Yes/No.
- ii. Description of test method(s) and procedures, including a description of sampling points, sampling train, analysis equipment, and test schedule.
- iii. Detailed description of test conditions, including:
  - Pertinent process information (e.g., the usage and type of fuel or raw material and the firing or operating rate.)
  - Control equipment information (i.e., monitored data and other relevant operating parameters during testing).
- iv. Data and calculations, including copies of all raw data sheets and records of laboratory analysis, sample calculations, and data on equipment calibration.

### 3.2 General Requirements for "Logs" or Similar Records

- a. Operating logs or other similar records required by this permit shall, at a minimum, include the following information related to the emission units and associated control system:
  - i. Information identifying periods when an emission unit or group of related emission units was not in service.
  - ii. For periods when a unit or group of related units is in service and operating normally, relevant process and control system information to generally confirm normal operation.
  - iii. For periods when a unit or group of related units is in service and is not operating normally, identification of each such period, with detailed information describing the operation of the unit(s), the potential consequences for additional emissions from the unit(s), the potential of any excess emissions from the affected unit(s), the actions taken to restore normal operation, and any actions taken to prevent similar events in the future.
  - iv. Other information as may be appropriate to show that the emission unit or group of related emission units is operated in accordance with good air pollution control practices.
- b. Inspection, maintenance and repair logs or other similar information required by this permit shall, at a minimum, include the following information related to the emission units and associated control system:

- i. Identification of equipment, with date, time, responsible employee and type of activity.
  - ii. For inspections, a description of the inspection, findings, and any recommended actions, with reason.
  - iii. For maintenance and repair activity, a description of actions taken, reason for action (e.g., preventative measure or corrective action as a result of inspection), probable cause for requiring maintenance or repair if not routine or preventative, and the condition of equipment following completion of the activity.
  - iv. Other information as may be appropriate to show that the emission unit or group of related emission units is maintained in accordance with good air pollution control practices, including prompt repair of defects that interfere with effective control of emissions.
- c. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five years from the date of entry and shall be available for inspection and copying by the Illinois EPA upon request. Any record retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of an on-site inspection. The logs required by this permit may be part of a larger database maintained by the Permittee provided that the information that is required to be kept is readily accessible.

### 3.3 General Requirements for Records for Deviations

- a. Except as specified in a particular provision of this permit or in a subsequent CAAPP Permit for the plant, records for deviations from applicable requirements shall include at least the following information: the date, time and estimated duration of the deviation; a description of the deviation; the manner in which the deviation was identified, if not readily apparent; the probable cause for deviation, if known, including a description of any equipment malfunction or breakdown associated with the deviation; information on the magnitude of the deviation, including actual emissions or performance in terms of the applicable standard if measured or readily estimated; confirmation that standard procedures were followed or a description of any event-specific corrective actions taken; and a description of any preventative measures taken to prevent future occurrences, if appropriate.

### 3.4 General Requirements for Reporting of Deviations

- a. The Permittee shall include the following information in records and reports for deviations:

- i. Identity of the deviation, with date, time, duration and description.
  - ii. Describe the effect of the deviation on compliance, with an estimate of the excess emissions that accompanied the deviation, if any.
  - iii. Describe the probable cause of the deviation and any corrective actions or preventive measures taken.
- b. Unless otherwise specified in a particular condition of this permit, if deviation(s) from requirements of this permit occurs during a calendar quarter, a report shall be submitted no later than 45 days after the end of the quarter. This report shall also provide a listing of all deviations for which earlier reporting was required, but need not include copies of the previously submitted information.
- c. For the purpose of determining whether a deviation must be reported prior to a periodic compliance report, a deviation shall be considered to continue even if operation of an emission unit is interrupted if the deviation is still present when operation of the unit is resumed.

ATTACHMENT 1: SUMMARY OF PROJECT EMISSIONS

Summary of Project Emissions<sup>a</sup> (Tons/Year)

Emission Unit(s)	NOx	CO	SO <sub>2</sub>	PM	PM <sub>10</sub> <sup>b</sup>	PM <sub>2.5</sub> <sup>b</sup>
Existing Units (Main Boilers)						
Baseline Actual Emissions	6160	5355	17060	2440	2023	1049
Future Emissions	4040	3611	21	66	266	266
Change	-2120	-1744	-17039	-2374	-1757	-783
New Units						
Auxiliary Boilers	24.8	25.2	0.41	1.31	5.24	5.24
Fuel Heaters	9.3	4.4	0.7	0.7	0.7	0.7
Subtotal	34.1	29.6	1.11	2.01	5.94	5.94
Total	-2086	-1714	-17038	-2372	-1751	-777
Total w/o decreases	34.1	29.6	1.11	2.0	5.9	5.94
Significant Emission Rate	40	100	40	25	15	10
Greater Than Significant?	No	No	No	No	No	No

Notes:

- a. For VOM emissions, the Joliet Station will continue to be a non-major source, permitted for annual future VOM emission less than 100 tons.

Emission Unit(s)	Permitted VOM Emissions (tons/year)
Main Boilers	94.9
Auxiliary Boilers	2.9
Fuel Heaters	0.2
Total	98.0

- b. PM<sub>10</sub> and PM<sub>2.5</sub> include filterable particulate and condensable particulate.

## ATTACHMENT 2: STANDARD PERMIT CONDITIONS

### STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) authorizes the Environmental Protection Agency to impose conditions on permits, which it issues.

The following conditions are applicable unless superseded by special condition(s).

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year from the date of issuance, unless a continuous program of construction or development on this project has started by such time.
2. The construction or development covered by this permit shall be done in compliance with applicable provisions of the Illinois Environmental Protection Act and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification, along with plans and specifications as required, shall have been submitted to the Illinois EPA and a supplemental written permit issued.
4. The Permittee shall allow any duly authorized agent of the Illinois EPA upon the presentation of credentials, at reasonable times:
  - a. To enter the Permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,
  - b. To have access to and to copy any records required to be kept under the terms and conditions of this permit,
  - c. To inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,
  - d. To obtain and remove samples of any discharge or emissions of pollutants, and
  - e. To enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.



5. The issuance of this permit:
  - a. Shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
  - b. Does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
  - c. Does not release the Permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
  - d. Does not take into consideration or attest to the structural stability of any units or parts of the project; and
  - e. In no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6.
  - a. Unless a joint construction/operation permit has been issued, a permit for operation shall be obtained from the Illinois EPA before the equipment covered by this permit is placed into operation.
  - b. For purposes of shakedown and testing, unless otherwise specified by a special permit condition, the equipment covered under this permit may be operated for a period not to exceed thirty (30) days.
7. The Illinois EPA may file a complaint with the Board for modification, suspension or revocation of a permit.
  - a. Upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed, or
  - b. Upon finding that any standard or special conditions have been violated, or
  - c. Upon any violations of the Environmental Protection Act or any regulation effective thereunder as a result of the construction or development authorized by this permit.